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Conference Abstract

Nanopublications: Universal, Anti-Silo and FAIR Method for Publishing, Annotating and Sharing of Open Linked Data for Biodiversity

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Abstract

Nanopublications are the smallest units of published information that comply with all known requirements for Findable, Accessible, Interoperable, and Reusable (FAIR) Linked Open Data and are both human-readable and machine-actionable (Mons and Velterop 2009). Nanopublications can be used as a machine-readable complement to traditional research articles, allowing data to be attributed and cited, but also to be published as standalone scientific assertions bearing provenance on the authorship and publication date (Kuhn et al. 2021). During the Biodiversity Community Integrated Knowledge Library (BiCIKL) project and in collaboration with the Nanodash platform, a "Nanopublications for Biodiversity" workflow was developed as a routine publishing process in the Biodiversity Data Journal (BDJ) and the Research Ideas and Outcomes (RIO) Journal (Penev et al. 2023). This radically new service was adopted by different research groups for various purposes: (1) annotation of published articles or selected parts of them; (2) expression of biotic relationships between organisms or taxa; (3) expression of habitat preferences of organisms or taxa; (4) linking between different types

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of biodiversity data and others (Fig. 1). In this presentation, we discuss some new perspectives of the use of nanopublications by large research infrastructures, such as Distributed System of Scientific Collections (DiSSCo), as a powerful annotation and data sharing instrument compliant with the DiSSCo Annotation Data Model for publishing corrections and annotations on collection objects in the open nanopublications space, providing incentives and credit to the users who do so. Another use case tests the linkages of Digital Specimen Digital Object Identifiers (DOIs) with article DOIs in which they have been cited, as well as with taxonomic treatments and taxon concepts these specimens have been assigned to. This allows users to trace Digital Specimen provenance and thus track use the of natural history collections and impact of contributions. In summary, we demonstrate how the cutting-edge technology of nanopublications can lead us to a future of FAIR and globally integrated biodiversity data.

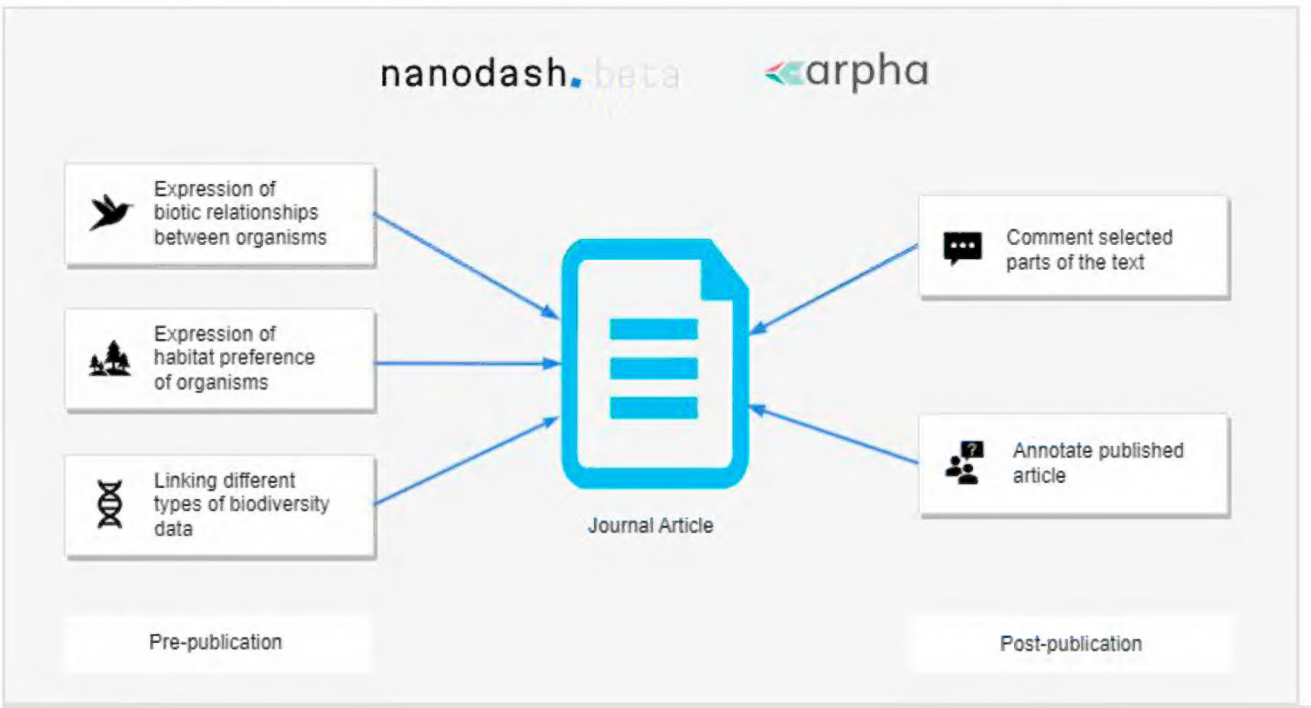

Figure 1.

"Nanopublications for Biodiversity" has been used by different research groups for various purposes.

Keywords

semantic publishing, biodiversity informatics, taxonomy

Presenting author

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Conflicts of interest

The authors have declared that no competing interests exist.

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